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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Makoto Yamada

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FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP

901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER

TOPGYAL, GELEK W

ART UNIT

PAPER NUMBER

2621

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/578,347	Applicant(s) YAMADA ET AL.	
	Examiner GELEK TOPGYAL	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-10 and 12-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-10 and 12-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/8/2010 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-3, 5-7, 9, 10 and 12-17 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-3, 5-7, 9-10 and 12-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gunji et al. (US 2002/0126994) in view of Nakajima (US 2003/0228133) and further in view of Tsukihashi (US 2002/0145959).

Regarding claims 1 and 9-10, Gunji et al. teaches a recording apparatus comprising:

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extraction means for extracting an image from a unit in which a moving image is encoded (paragraphs 0107-0108 teaches wherein a thumbnail is generated from a top picture), the unit including a constant number of images (paragraphs 0053-0054 and 0079-0081 teaches of GOPs that have constant number of images);

reduction means for reducing the amount of information of the extracted image (paragraphs 0107-0108 teaches wherein a thumbnail is generated from a top picture); encoding means for encoding the image whose amount of information is reduced by a predetermined encoding scheme (as discussed above, a thumbnail by definition is a reduced size image version generated by encoding a larger size image);

association means for associating the encoded image with the unit from which the image is extracted by the extraction means (paragraphs 0108, 0110 and 0111 teaches of associating each thumbnail with an entry point); and

recording control means for controlling recording of the image associated with the unit onto a data recording medium for recording the moving image (paragraph 0110 teaches of recording the thumbnail management information onto the recording medium where the moving images are recorded).

wherein the recording control means is configured to: control recording of the moving images onto the data recording medium such that the moving images corresponding to a predetermined time interval are recorded in a first contiguous area of the data recording medium (paragraphs 0053-0055 and Fig. 4 shows that the AV file is recorded together).

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However, Gunji et al. fails to particularly teach the claimed wherein the recording control means is configured to: determine an amount of data of moving images stored in a buffer; and that the control is based when the amount of data of moving images stored in the buffer is no less than a first predetermined threshold; and that after the recording of the moving images corresponding to the predetermined time interval; determine an amount of data encoded images stored in the buffer ; and control recording of the encoded images onto the data recording medium when the amount of data of encoded images stored in the buffer is no less than a second predetermined threshold, such that the encoded images are recorded in a second contiguous area of the data recording medium.

In an analogous art, Nakajima et al. teaches in paragraphs 39 and 40 that after the moving image portion of the data is recorded to the HDD 109 (synonymous to the AV file recording in Gunji et al.), thumbnail image data are written to the HDD 109.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the ability to record the encoded image data (thumbnail image data) into a second contiguous area as taught by Nakajima et al. into the system of Gunji et al. so that thumbnails image data can be stored separately to provide a direct means of accessing the data during future reproduction/manipulation.

However, the proposed combination of Gunji et al. and Nakajima et al. fails to particularly teach that the recording of the moving images and the encoded images to their respective contiguous areas are based on whether a first or second threshold of a storage capacity of the buffer is reached.

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It is a general function of a recording system, much like Gunji et al and Nakajima et al., to utilize buffers for the feature of recording data onto a recording medium of sorts. In typical recording systems, buffers are used to gather processed data in the form of the basic writing block or a group of writing blocks before the data is written to a recording medium. In the case of Gunji et al and Nakajima et al., the recording medium is an optical disc and the data written on the medium is MPEG type video data. Video data in the form of a video pack or video packet are stored in a buffer until the complete video pack or video packet is available, and then the data stored within the buffer is output to the recording unit to be recorded in the optical disc.

In an analogous art, Tsukihashi teaches in paragraph 58 and the abstract of the basic ability of a buffer to gather data within a buffer RAM 13, and that the recording is only commenced upon detection of the fact that an amount of data equivalent to data writing capacity has been stored in the buffer memory 13.

Therefore, this teaching of Tsukihashi can be applied individually to the moving image recording step and the encoded image recorded step of the proposed combination of Gunji et al. and Nakajima et al. to yield the two conditions for their respective buffer capacity meeting a given threshold. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the ability to write data from a buffer to a recording medium once a threshold (first and second) is reached as taught by Tsukihashi into the proposed combination of Gunji et al. and Nakajima et al. to prevent data from not being recorded due to possible buffer overflow.

Regarding claim 2, Gunji et al. teaches the claimed wherein the association means is a track associated with a track of the moving image and associates the encoded image with the unit by arranging the encoded image in a track in a predetermined file format (as discussed above wherein each thumbnail is associated with an entry point, which links it to UD_PGC (playlist) in Fig. 2).

Regarding claim 3, Gunji et al. teaches the claimed wherein the association means associates the encoded image with the unit by associating a range of time for playback of the unit of the moving image with the encoded image (as discussed above wherein each thumbnail is associated with an entry point, which links it to UD_PGC (playlist) in Fig. 2).

Regarding claim 5, Gunji et al. teaches the claimed wherein the encoding means encodes the image by a compression and encoding scheme for a static image (as discussed above, only a single image from the top of the recording is used to create a thumbnail).

Regarding claim 6, Gunji et al. teaches the claimed wherein the encoding means encodes the image by a compression and encoding scheme for a moving image such that decoding is possible only with the image (as discussed above and upon reproduction of the thumbnail (as in paragraphs 0111) the thumbnail is decoded by system decoder group 64 in Fig. 1).

Regarding claim 7, Gunji et al. teaches the claimed wherein the reduction means reduces the amount of information of the image by thinning out pixels of the image (as discussed above, a thumbnail by definition is a reduced size image

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generated by encoding a larger size image. The encoding process removes majority of the data from the larger image to create the smaller thumbnail sized image).

Playback apparatus, method, medium and program claims 12, 16-17 are rejected for the same reasons as discussed above in the method apparatus claims 1, 9-10, respectively.

Regarding claim 13, Gunji et al.'s system utilize a conventional DVD format and therefore would allow for skipping functions between chapters and therefore would reproduce only the associated thumbnails.

Claims 14 and 15 are rejected for the same reasons as discussed above in claims 5 and 6, respectively.

5. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over in view of Gunji et al. (US 2002/0126994) in view of Nakajima (US 2003/0228133) further in view of Tsukihashi (US 2002/0145959) and further in view of Lopresti (US 6,298,173).

Regarding claim 8, the proposed combination of Gunji et al., Nakajima et al. and Tsukihashi teaches the claimed wherein the reduction means reduces the amount of information of the image however fails to teach wherein the reduction is accomplished by removing a high-frequency component of the image.

In an analogous image reducing art, Lopresti teaches in col. 7, lines 3-8 of the ability to use JPEG to remove high frequency components of an image to reduce the amount of information.

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Gunji's thumbnail generation is implemented on an I frame, which uses MPEG compression. It should be noted that an I frame alone uses the same technology as JPEG compression.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the ability to use JPEG compression as taught by Lopresti into the proposed combined system of Gunji et al., Nakajima et al. and Tsukihashi so that image compression can be achieved.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GELEK TOPGYAL whose telephone number is (571)272-8891. The examiner can normally be reached on 8:30am -5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gelek Topgyal/
Examiner, Art Unit 2621

/JAMIE JO ATALA/
Primary Examiner, Art Unit 2621